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Center for Substance Abuse Prevention

State Incentive Grant Program

Evaluation Framework

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SIG EVALUATION FRAMEWORK

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Introduction

The State Incentive Grant (SIG) Program of the Center for Substance Abuse Prevention (CSAP) has a twofold purpose:

- "Governors should coordinate, leverage and/or redirect, as appropriate and legally permissible, all substance abuse prevention resources (funding streams and programs) within the state that are directed at communities, families, youth, schools and workplaces in order to fill gaps with effective and promising prevention approaches targeted to marijuana and other drug use by youth."

- "States should develop a revitalized, comprehensive statewide strategy aimed at reducing drug use by youth through the implementation of promising community-based prevention efforts derived from sound scientific research findings."

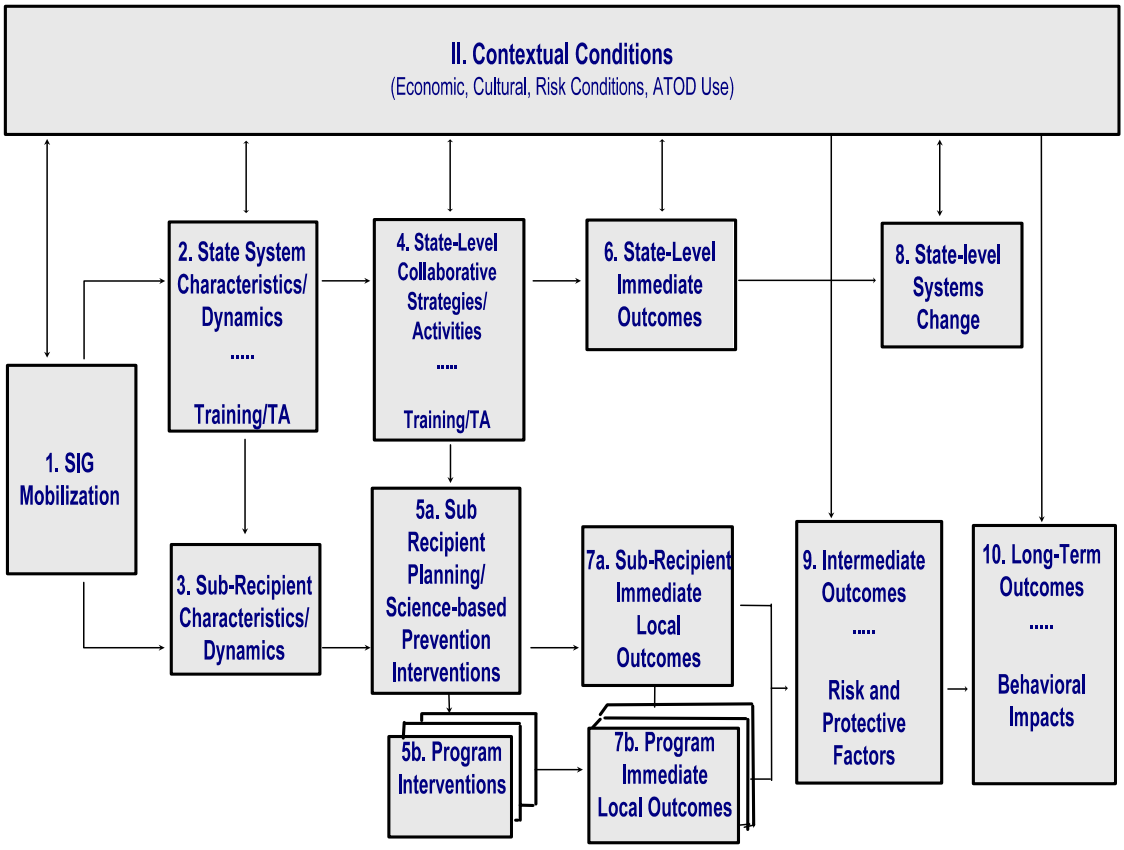
Five states were awarded State Incentive Cooperative Agreements in September 1997: Illinois, Kansas, Kentucky, Oregon and Vermont. CSAP staff and representatives from these five states met in December 1997 and began the development of a common SIG evaluation framework to be used by these five states and other SIG states to follow. Follow-up meetings, facilitated by the current authors, to further evolve the SIG evaluation framework were held March 4-5, 1998 in Portland, Oregon; March 30-31 in Bethesda, Maryland, and May 4-5 in Overland Park, Kansas. An agenda, participant list and process summary for March 4-5 is included in Appendix A, for March 30 in Appendix B and for May 4-5 in Appendix C. Previous drafts of this framework were reviewed by CSAP staff, representatives from the five SIG states, representatives from CSAP's regional Centers for the Advancement of Prevention Technology (CAPTs) and the contractor for the SIG national cross-site evaluation, the Cosmos Corporation. Changes, additions and adjustments to the framework and the accompanying tables have been made based upon this input. In addition, a special "Assessment Subcommittee" provided input around program level variables during a meeting held July 9-10, 1998 in Burlington, Vermont (Appendix D contains an agenda, participant list and process summary of this meeting).

An Evolving SIG Evaluation Framework

The SIG evaluation framework has evolved through consensus discussions among CSAP staff, the first 5 SIG grantees, and the authors of this report. The SIG framework builds upon previous frameworks developed for CSAP's partnership and coalition grant programs. The SIG framework is also congruent with, but more general than, conceptual frameworks developed by each of the first 5 SIG grantees themselves. The latter are quite sophisticated and specific to each state plan. For cross-site planning and evaluation purposes, however, SIG grantees, CSAP staff and the authors worked to capture essential elements across SIG initiatives.

The SIG evaluation framework articulates the program theory or "logic model" upon which the SIG structural elements are developed and the SIG intervention strategies are deployed. That is, the framework presented in Figure 1 schematically represents assumptions and causal expectations about how SIG program activities align to produce the desired outcome of "a revitalized, coordinated and comprehensive prevention infrastructure" within a state. The framework in Figure 1 may be used for several purposes: to orient SIG partners and participants to the overall SIG project and their roles within the project; as a generic program planning guide that delineates a sequence of stages and accompanying tasks; as an implementation check used to compare execution with intention; and, as is more fully developed in this report, as an evaluation framework that specifies constructs, indicators, measures and hypothesized relationships.

Figure 1
Draft SIG Evaluation Framework



The general configuration presented in Figure 1 among the boxes numbered 1-11 was ratified by all stakeholders attending the May 4-5, 1998 meeting. The Assessment Subcommittee meeting held July 9-10 further articulated the program level boxes 5b and 7b.

The framework consists of thirteen interrelated and interconnected boxes:

1. SIG mobilization
2. State-level system characteristics/dynamics
3. Sub-recipient characteristics/dynamics
4. State-level collaborative strategies/activities

5a. Sub-recipient planning/science-based prevention interventions

5b. Program Interventions

6. State-level immediate outcomes

7a. Sub-recipient immediate local outcomes

7b. Program immediate local outcomes

8. State-level systems change
9. Intermediate outcomes (risk and protective factors)
10. Long-term outcomes (behavioral impacts)
11. Contextual conditions (Economic, Cultural)

Figure 1 represents the "flow" of state, sub-recipient and program level elements, with arrows indicating the direction of relationships. The framework is best described as interrelated streams of activity moving from left to right. SIG mobilization is the catalyst whereby the existing state system and sub-recipient organizations mount streams of prevention activities. At the state level, collaborative activities such as a coordinated review of funding and programs is expected to lead to immediate outcomes such as interagency collaboration and state capacity development. This, in turn, is seen as producing a longer-term outcome of systems change (distinct from population-related outcomes), through the mechanism of a comprehensive state prevention plan that merges or redirects funding and alters state policy and program requirements. Capacity development is a central thrust of the SIG process at both state and sub-recipient levels. Training, technical assistance and technology transfer are important inputs to the state system, as state capacity is build by drawing on regional Centers for the Advancement of Prevention Technology (CAPTs) and other technical assistance resources. Likewise, training and technical assistance as outputs from the state system and others is expected to build sub-recipient capacity through all phases of prevention activities. Sub-recipients are expected to increase inter-organizational planning at the local community level and select and implement an array of prevention strategies, including science-based program interventions directed toward specific populations within the community. Sub-recipient activities are intended to produce immediate local outcomes including increased prevention capacity, joint programming or advocacy projects among prevention organizations and changes in the shared community environment (e.g. norms, regulations) generated through local prevention policy and media advocacy. Program interventions are expected to produce immediate local outcomes of decreased risk and increased protective factors within specified sub-populations of the community. Changes in the community environment which impact all or most of the community population and program specific outcomes for sub-populations are seen as reinforcing and augmenting each other to ultimately impact intermediate outcomes of risk and protective factors in the target population. These, in turn, link with the desired long-term outcomes, primarily reductions in ATOD use and other health-related behaviors. Finally, contextual conditions at the state level are expected to most directly influence the unfolding of the SIG process at the state level, but may if particularly salient and potent, sometimes influence intermediate and long-term outcomes at the sub-recipient level.

The remainder of this report elaborates on each "box" of the SIG evaluation framework. Each component is briefly described along with selected supporting references. Cross-site constructs, indicators, data source and measures are identified in tables. The extent of consensus on constructs and measures is described for each component. Constructs for which the SIG working group has already chosen or is developing cross-site measures are presented in Italics[1] in the tables. The "other" row in tables is meant to indicate both the draft nature of this report and also the fact that state SIGs may, of course, be adding specific constructs of interest to them in their own evaluations.

1. SIG Mobilization

SIG mobilization revolves around activities undertaken within the first 90 days of the receipt of award as specified in the GFA. It includes, at a minimum, establishing the SIG organizational configuration, hiring staff, convening the SIG advisory council and identifying all federal and state substance abuse prevention funding streams in the state. SIG awardees assign dates to these milestones within the implementation plans submitted with their proposals. Process evaluation therefore consists of documenting whether tasks were accomplished as intended. For example, did the SIG advisory council meet within 45 days after the receipt of award, as evidenced by observation or production of meeting minutes?

Table 1. SIG Mobilization

Constructs	Indicators	Data Sources	Instruments/Measures
Establishing SIG organizational configuration	• organizational chart • staff hired and role assignments	• document review	• milestones specified in implementation plan in SIG application • Reports to CSAP
Convening of SIG advisory council	• organizational mobilization	• document review	• SIG application + • minutes
Funding streams inventory	• federal and state funding streams related to substance abuse prevention	• document review • key informants in state agencies and non-profit organizations	• funding "profile" of amount and sources of funding
Other:_____			

[1] This designation should not be taken to imply that consensus is not possible for other constructs. Only consensus as of July 1998 is represented and does not preclude the consensual development of additional cross-site measures.

2. State System Characteristics/Dynamics

In Table 2, the "state system" constructs, indicators, data sources and type of measures discussed by the five SIG grantees and CSAP staff are presented. All SIG states intend to measure the three major constructs listed in the Table. Indicators of state agency characteristics and relations include baseline descriptions of the "portfolio" (e.g. budgets, programs and personnel) of the major state level agencies involved with substance abuse prevention and a baseline measure of contact and collaboration among the top five state level agencies involved with substance abuse prevention. State-level departments, funding streams and personnel vary widely from state to state but across all states these are the elements that produce policies, practices and programs which channel the actions of prevention and health promotion professionals within the state. Therefore, variation in the strength of these elements across states is important to assess in the SIG project, as they comprise the building blocks of a state "system" or infrastructure. SIG grantees intend to utilize annual organizational reports from agencies in their states to develop the portfolios. However, recognizing that reporting formats may vary widely from state to state, CSAP may want to consider the development of a standard reporting form for compiling portfolio information. Standardization may be especially important for cross-site comparison, as the portfolio descriptions establish the baseline for state level immediate outcomes such increased prevention resources (see Table 6 below) or longer-term systems changes such as merged funding streams or reductions in program duplication (see Table 8 below).

The concept of "collaboration" goes beyond a simple description of state agency portfolios and considers the *pattern of relationships* among state departments or agencies. State departments acting independently often implement a panoply of programming which leads to duplication in some areas, gaps in other areas and fragmentation and confusion for those at the local level. This is neither new nor unique to any individual state. Rather, these issues have been observed as a shortcoming of human service delivery systems in general by many researchers over a considerable period of time (Aiken, Dewar, DiThomaso, Hage, & Zeitz, 1975; Stroul & Friedman, 1986; Saxe, Cross, Silverman & Batchelor, 1987). Examined from this perspective, a *pattern of relationships* among state departments and agencies must be forged whereby they are aligned in a conscious attempt to maximize their impact for prevention and health promotion efforts. However, evaluation research is much more developed in assessing program level change than in assessing changes in collaboration among organizations and systems as a whole. There is, however, a history of concepts and measures in the field of inter-organizational networks (Van de Ven & Ferry, 1980; Cohen, 1990). More recently, Himmelman, Luxenberg and Schmitz (1995) and Wandersman and Goodman (1995) have developed approaches to measuring different levels of collaboration. The inter-organizational pattern of relationship can be described in terms of frequency of interaction and also "type" of interaction ranging from simpler "networking" (exchange of information) or coordination (to avoid duplication) through more involved cooperation or collaboration (involving some degree of integration or joint effort toward a common goal). SIG grantees will employ a standard approach to identifying the top five state agencies in their state (Appendix E) and will use a common "state agency collaboration interview" (Appendix E) to measure the frequency and extent of collaboration among these five top state agencies. Asking questions for each possible organizational relationship allows for the creation of a "network" measure which will establish the baseline for a state level immediate outcome expected to occur later in the SIG project (see Table 6 below).

Table 2. State System Characteristics and Dynamics

Constructs	Indicators	Data Sources	Instruments/Measures
State Agency characteristics & relations	• description of state agencies & their portfolios (budgets, programs) • contact/ collaboration among agencies	• archival data sources • key informants in state agencies	• annual organizational reports • *state agency collaboration interview*
Advisory Council characteristics and processes	• organizational chart; staffing pattern • degree of "formalization" • perceived "capacity" for prevention (skills, beliefs)	• document review • key informants (SIG project director & CSAP project officer) • members of advisory council	• SIG application • *formalization checklist* • member survey
Training and Technical Assistance for prevention capacity building received by state	• "dose strength" of training and ta received for building state system capacity • satisfaction / impact of training & ta received by state system	• document review • state agency recipients of training & ta • providers of training & ta to state	• report from state agencies • specific training evaluation forms
Other:_____			

Characteristics of the SIG state level advisory council is a second major element of the state system. An organizational chart and staffing pattern will be available for each of the SIG grantees from the SIG applications. In addition, SIG grantees and CSAP staff reached consensus on a common cross-site "formalization checklist". The "formalization checklist" (Appendix F) will measure the degree to which rules and procedures are written and precisely defined in the SIG advisory committee (i.e. written policy on how membership is defined). Every six months the SIG project director and CSAP project officer will review which of a list of 20 different formalization items are present in the SIG advisory council. SIG grantees also discussed the importance of measuring prevention "capacity" and how it might change over time as a result of the SIG project. Several recent articles in the health promotion literature have conceptualized the "capacity" of state health agencies (Goodman, Steckler & Alciati, 1997; Meissner, Bergner & Marconi, 1992; Schwartz, 1993) to include dimensions such as financial management, policy and media advocacy and surveillance and evaluation. In addition, Wallack and Dorfman (1996) described how a "new public health" paradigm demands specific skills. For example, William-Crowe and Aultman (1994) note that only

recently have public health professionals recognized that they must play an active role in leading and shaping the debate over policy, and they developed a profile of "effective State legislative policy entrepreneurs". While there was general agreement that members of the SIG advisory council should report on their own capacity in terms of perceived skills and beliefs about prevention, there was neither consensus on a particular method (survey or interview) nor agreement to develop a common cross-site instrument.

A third major element of the state system is the training and technical assistance received by the state to build state prevention capacity. Training, technical assistance and technology transfer is available to states from many federal agencies, national organizations and consultants. The extent to which state agencies access and utilize resources to build their own prevention capacity may be assessed through reports of the state agencies, but there has been no discussion as to a particular method or measure. Rather, discussion of training and technical assistance has revolved around training and technical assistance to sub-recipients from the state level (see Table 4).

3. Sub-Recipient Characteristics/Dynamics

Research has identified the importance of relationships between structural and operational characteristics of local coalitions organized for prevention and health promotion and intermediate outcomes. For example, in a study of 35 municipal level substance abuse prevention coalitions, McMillan, Florin, Stevenson, Kerman and Mitchell (1993) found that organizational characteristics such as cohesion and task focus were associated with ability to impact decisions and resource allocation about prevention in important community systems. Kegler, Stecker, McLeroy and Malek (1998) found coalition factors such as communication, cohesion, staff time and complexity related to extent of implementation in 10 local tobacco control coalitions. Comprehensive community-based initiatives, especially those using a coalition approach, face a series of complex developmental tasks. (Bracht & Kingsbury, 1990; Florin, Mitchell & Stevenson, 1993). Significant participation from a variety of community sectors must be mobilized. An organizational structure and operations must be developed which clarifies roles and procedures. Organizational capacity for successful action must be built. The strength of organizational elements might well influence the subsequent success of prevention initiatives. Therefore, in this framework component, SIG participants listed constructs designed to capture sub-recipient characteristics and dynamics.

Table 3 presents the sub-recipient constructs, indicators, data sources and type of measures discussed by the five SIG grantees, CSAP staff and the authors. All SIG states mentioned their intent to measure the constructs listed. As with the state level characteristics, there was consensus that archival data sources and document reviews, especially sub-recipient proposals, would provide much data. Cross-site comparisons will be facilitated by the fact that SIG grantees and CSAP staff agreed on a common set of screening criteria for sub-recipient proposals. These proposals will provide baseline descriptions of sub-recipients that receive SIG funding and ratings of the strength of sub-recipient proposals along the same dimensions (e.g. needs and resource assessment, logic model, etc.). In addition, SIG grantees and CSAP staff reached consensus on the development and

use of a common sub-recipient project director's survey[2] to assess the organizational capacity of the sub-recipient. The project director's survey is under development and exact indicators are not finalized, but the survey will likely contain items assessing resources available to the sub-recipient organization and the formalization of the sub-recipient organization. In addition, the project director's perceptions of the social climate of the group, perceived effectiveness and level of collaboration among member organizations will be assessed. The project director's survey will establish a baseline for some immediate outcomes expected to be produced at the sub-recipient level (see Table 7 below).

Table 3. Sub-Recipient Characteristics/Dynamics

Constructs	Indicators	Data Sources	Instruments/Measures
Characteristics of sub-recipient (either community-based organization or coalition)	• baseline description • mission • organizational members / structure • staffing pattern	• document review	• *Sub-recipient proposal*
Strength of sub-recipient proposal (from screening criteria)	• organizational track record • data-based risk/ resources assessment • articulated plan (logic model, objectives, specified intervention components) • budget	• document review	• *Sub-recipient proposal*
Organizational capacity of sub-recipient	• Resources • formalization • perceptions of group climate & decision-making process • perceived effectiveness of coalition • level of collaboration	• project director of sub-recipient project	• *sub-recipient project director survey*
Other:_____			

[2] Previous drafts of this evaluation framework described a member survey, however, SIG grantees and CSAP staff agreed by consensus at the Assessment Subcommittee meeting held July 9th and 10th 1998 that a project directors survey would replace the member survey.

4. State-Level Collaborative Strategies/Activities

Public policy seems to have embraced interagency collaboration in the development of new social and health care service delivery systems (Fleishman, Mor, Piette and Allen, 1992). However, research and experience with collaborative initiatives for service integration across state departments has pointed out the extensive nature of this undertaking, the multiple barriers in its path and the thoughtful and mindful process that is necessary to manage an effective process. In addition, it is prudent to recognize that policy formation and policy implementation are separate elements. For example, Downey, La Vonne and Gardiner (1996) observed widely ranging differences in states' actions in implementing the Synar Amendment and observed that implementation of a policy was as much a developmental process as was the formation of the policy. SIG participants and CSAP staff were therefore understandably concerned with tracking the actual process of collaborative activities in this component of the evaluation framework.

SIG participants agreed to employ a common "Advisory Council meeting minutes form" (Appendix G). The meeting minutes form will document organizational participation and participation from key decision makers (e.g., is there representation from the Governor's office?), progress in meeting developmental tasks and specific decisions and actions. States will also collect and report on documents produced by the SIG advisory council, but formatting differences may make cross-state comparison difficult. In addition, some states will employ an observational coding form (with potential use in validating the minutes form), but this labor-intensive method will not be standard practice across states.

Each of the five SIG grantees will also provide considerable training and technical assistance to sub-recipients, often coordinated with existing state prevention resources, the regional CAPT and other resources. There are several rationales for the central role of training and technical assistance to sub-recipients including: (a) the wide discrepancy between "best practices" intervention knowledge and what is actually practiced in the field (Rothman & Thomas, 1994); (b) the numerous factors that continually threaten the fidelity of program implementation of even a proven program so that it is often less than what was originally envisioned (Ottoson & Green, 1987) and (c) the particularly complex challenges posed by coalition-based approaches to prevention and health promotion (Florin, Mitchell & Stevenson, 1993). For example, despite a growing research base and the strong desire of practitioners to apply prevention strategies, several barriers to primary prevention in the schools have been identified (Johnson, Malone & Hightower; 1997). In addition, to the extent that SIG projects address the "shared environment" and employ prevention strategies to alter norms, regulations and availability (Klitzner, 1998), they will be developing new skills and competencies among many practitioners. Indeed, theory, best practice and empirical study in the area of the "transfer of technology" is a crucial need for the prevention and health promotion field in general (Backer, 1989) and is explicitly acknowledged in CSAP's "Knowledge Development and Application" cycle described in the RFA "Center for the Application of Prevention Technologies".

Although SIG participants did not develop consensus on a common measure, there was agreement that constructs such as the "dose strength" of training and technical assistance from the state level to sub-recipients should be tracked and that satisfaction with these support services and perceptions of impact should be assessed from the point of view of recipients. SIG participants also agreed in principle that Training and ta contact forms should, as much as possible, be consistent across both regional CAPT's and SIG's. To that end, SIG grantees agreed to forward existing state level Training and ta contact forms to CSAP staff who will examine similarities across states and work toward alignment with the Training and ta contact form that will be used in common across the five CAPT's.

Table 4. State-Level Collaborative Strategies/Activities

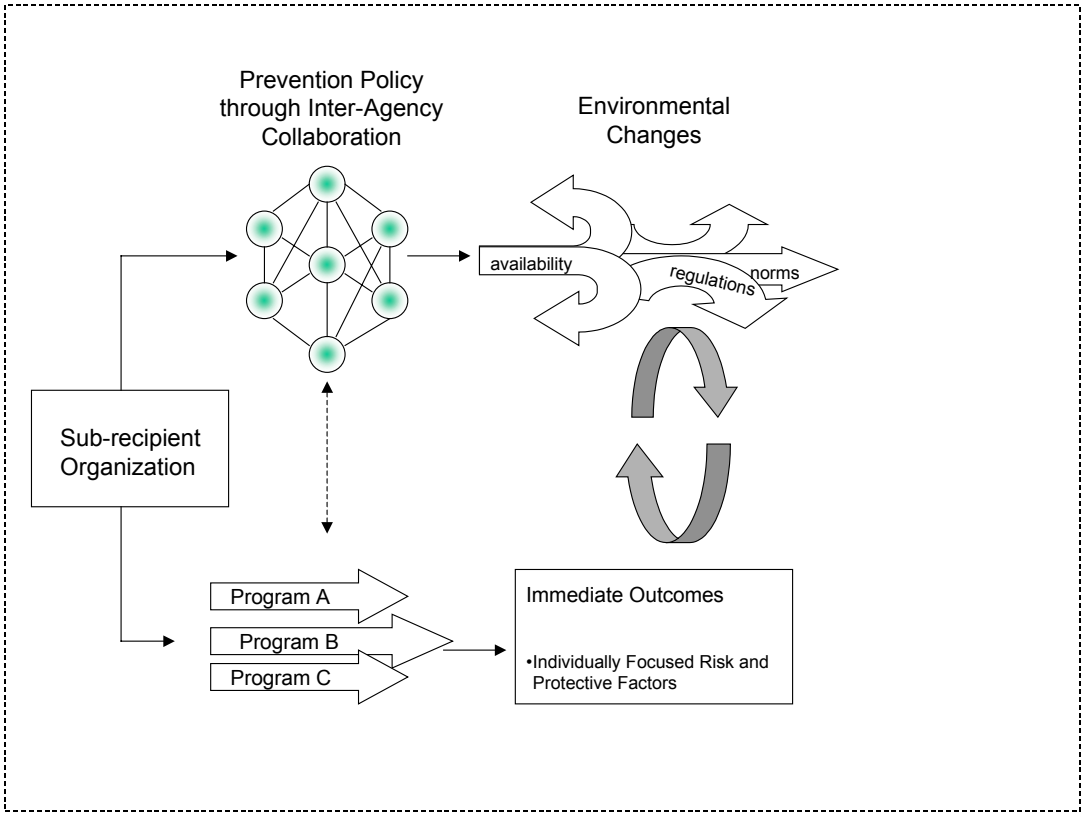
Constructs	Indicators	Data Sources	Instruments/Measures
Collaborative planning activities	• participation, items discussed, issues • creating common vision/mission • involvement of key decision-makers • decisions made/ actions taken • specifying action plan	• archival data sources • project staff	• *advisory council meeting minutes form* • working papers, etc.
Training and Technical Assistance provided by state, CAPT and others to sub-recipients	• "dose strength" of training and ta • satisfaction / impact of training & ta	• document review • providers of training & ta • recipients of training	• training and ta contact form • specific training evaluation form
Other_____			

5a. Sub-Recipient Planning and Science-Based Prevention Implementation
5b. Program Interventions

Sub-recipients will engage in two general kinds of inter-related prevention strategies, a policy strategy and a program strategy, with the exact mix of these activities varying across sub-recipient communities. Figure 2 provides a very simplified illustration of how these prevention strategies might unfold. (Figure 2 is also a further illustration of boxes 3, 5a, 5b, 7a and 7b of Figure 1).

Figure 2

Sub-recipient Prevention Strategies and Immediate Outcomes



At the program level, sub-recipients are expected to increase the number of science-based prevention programs they (and sometimes other) prevention agencies / organizations are implementing locally. Prevention programs in a community are often designed for specific populations (e.g., refusal skills for junior high students; parenting for single parents of elementary school children) and intended to change perceptions, attitudes or skills. In any particular sub-recipient community there might be one specific program or several prevention programs intended to produce cumulative or synergistic immediate outcomes on individually focused risk and protective factors.

Currently, it is often unclear what proportion of prevention activities being implemented at the local level are informed by science-based prevention. Thus, while researchers may be doing a better job

of discovering "what works," the huge investment of resources at the federal and foundation level in developing empirically tested programs and policies may not be influencing decision-making at the local level. Ineffectual and inadequately implemented programs not only waste resources they may also cause disillusionment among implementers and policymakers who see no impact. Interventions are necessary which help to influence the dissemination and adoption as well as the fidelity of implementation of research-based prevention programs and policies at the local community level (Rohrbach, Graham & Hansen, 1993). Therefore, SIG grantees and CSAP have agreed that at least 50 percent of all sub-recipient funds should be used to fund "science-based" prevention programs, specified as interventions of types 3, 4 and 5 as defined in CSAP's document entitled "Science-Based Practices in Substance Abuse Prevention: A Guide." In addition, a SIG state must ensure that, on a statewide basis, program level process and outcome evaluations, including an adequate sampling plan, are conducted for one program in each of at least three different domains (e.g., individual, peers, family, school, community).

At the policy level, sub-recipient organizations mobilize inter-organizational collaboration for prevention policy and media advocacy. Such collaboration is seen as necessary because policy and media advocacy initiatives are difficult to implement and often require more collaborative and multi-sector effort than might be typically attempted by a single, individual prevention agency. Klitzner (1998) has recently articulated a distinction between prevention strategies that attempt to alter the environments in which *individual* children grow, learn and mature and those that attempt to alter the *shared environment* which influences all children. Klitzner identified three factors in the shared environment that shape both positive (healthy) and negative (health-compromising) behavior: norms, availability and regulations. Norms are basic orientations concerning the acceptability of specific behaviors for a specific group of individuals. Availability is defined in terms of the cost or difficulty of obtaining a commodity such as alcohol, marijuana and cigarettes. Regulations are formalized laws or policies (of governments, public agencies or private organizations) that control availability, codify norms and specify sanctions. Figure 2 illustrates that changes in norms, availability and regulations may all be intended immediate outcomes of prevention policy and advocacy efforts. The multi-directional arrows are meant to indicate that environment changes may impact many community institutions and settings and thereby impact large segments of the community population.

There is, in fact, growing agreement among many prevention researchers and practitioners that programs designed to prevent ATOD use will be most effective when they include strategies that attempt to change community conditions and norms as well as those that focus only on changes in individual skills and competencies (Kumpfer, 1989; Norman & Turner, 1993; Pentz et al., 1989). For example, Ellickson et al. (1993) found that the initial, positive effects of their school-based curriculum in delaying ATOD use faded over time, in part, they suspect, because of the lack of reinforcement from the surrounding social environment. Similarly, Johnson et al. (1990), in reviewing the success of the Midwestern Prevention Project, speculated that the lasting effects of their school-based curriculum was reinforced by their other community-based program components. The National Research Council's review of the literature, *Preventing drug abuse: What do we know?,* noted a "growing recognition of the need to support educational interventions on the drug problem with broader policy and environmental changes and to engage parents, community and other social factors" (Gerstein & Green, 1993; p. 109). Thus, a prevention plan seeking to influence individual behavior is well advised to include both individual change and policy change initiatives. The circular arrows in Figure 2 are intended to indicate that change on the individual level and

environmental change may augment and amplify each other to overcome inertia and initiate a cycle of change. This concept was expressed well by Schmid, Pratt and Howze (1995), discussing policy as intervention in the area of cardiovascular disease:

> "It is unreasonable to expect large proportions of the population to make individual behavior changes that are discouraged by the environment and existing social norms. It is equally unrealistic to expect communities or organizations to enact policy changes for which there is no broad-based understanding and support. To be effective, a public health approach to…prevention must incorporate environmental and policy measures as well as education and skill development for each of the sectors of individuals and organizations involved." (p.1207)

In Table 5a, constructs, indicators, data sources and types of measures discussed by the five SIG grantees and CSAP staff to assess sub-recipient planning, selection and overall implementation of science-based prevention initiatives are presented. All SIG states mentioned their intent to measure indicators of collaborative planning such as participation and decision making by using archival data sources such as minutes. However, SIG participants did not discuss the use of a common minutes reporting form as they did for the state advisory council. As with the state level, some states will employ a meeting observation form, but this is not standard practice across states. Tracking implementation progress of the entire sub-recipient project was mentioned in two ways by SIG grantees. One was through using specific action plans produced by sub-recipients to monitor progress. A second, related approach was to track implementation through progress reports submitted to the state "advisory council" by the sub-recipient. Although both of these mechanisms to track implementation were mentioned, neither a specific method nor a specific measure was discussed. Finally, one state intends to survey project staff about implementation activities via a monthly survey conducted over the Internet but, again, this will not be standard practice.

Table 5a. Sub-Recipient Planning/Science-Based Prevention Interventions

Constructs	Indicators	Data Sources	Instruments/Measures
Collaborative planning activities	• participation, items discussed, issues raised • creating common vision/mission • involvement of key decision-makers • decisions made/ actions taken • choosing particular targets for change	• archival data sources • project staff	• minutes • working papers, etc
Implementation	• specific action plan	• document review	• outcome-based work

specification (science-based intervention)	with benchmarks, milestones, timeline		plan • progress reports to State advisory committee
Other _____			

Table 5b lists indicators for measuring program level implementation that have been mentioned by SIG evaluators. These include standard process evaluation indicators designed to assess the extent to which the program intervention was reaching the intended audience, with the intended strength of intervention, implemented with fidelity. However, there has been no consensus discussion about common implementation measures.

Table 5b. Program Interventions

Constructs	Indicators	Data Sources	Instruments/Measures
Program design and implementation	• reach (population) • strength • implementation fidelity • others_____	• ?	• ?

6. State-Level Immediate Outcomes

The SIG initiative expects to produce immediate outcomes at the state level such as increased resources for prevention (beyond SIG funding) increased capacity and increased coordination and collaboration among state agencies. Table 6 presents constructs, indicators, data sources and types of measures discussed by the five SIG grantees to measure state level immediate outcomes. All SIG states mentioned their intent to gather data on the major constructs. There was consensus on the use of archival data sources such as budgets and annual reports that would parallel the information gathered for the baseline of state agency portfolios mentioned in table 2. While there was agreement that members of the SIG advisory council should be asked about increased capacity, there was neither consensus on a particular method (survey or interview) nor agreement to develop a common cross-site instrument. However, the standard state agency collaboration interview mentioned in table 2 would be used to measure changes in coordination and collaboration and SIG states agreed to record and report all inter-agency memos of agreement catalyzed by the SIG project in their state.

Table 6. State-Level Immediate Outcomes

Constructs	Indicators	Data Sources	Instruments/Measures
Increased resources for prevention at state level	• personnel • funding (beyond SIG) • information resources • physical resources	• archival data sources	• *annual organizational reports*
Increased capacity	• perceived skill development • perception of systemic changes as result of SIG	• members of "advisory council"	• member survey
Increased coordination/ collaboration among agencies	• frequency of contact • type of contact	• key informants • archival data sources	• *state agency collaboration interview* • *inter-agency memos of agreement*
Other: _____			

7a. Sub-Recipient Immediate Local Outcomes
7b. Program Immediate Local Outcomes

The immediate outcomes expected at the local (usually community) level include an increased prevention capacity within the sub-recipient organization or coalition, institutionalization of collaboration among key agencies, production of a comprehensive prevention plan and increased numbers of science-based programs, policies and practices adopted and implemented with fidelity. In Table 7a, constructs, indicators, data sources and types of measures discussed by the five SIG grantees and CSAP staff to measure sub-recipient immediate local outcomes are presented.

Increases in capacity and collaboration will be measured by items contained within the standardized sub-recipient project director's survey described in Table 3. Developing consensus around an expert rating scale for judging the quality of prevention plans makes sense, as such ratings have been used as an outcome in studies of coalition effectiveness (Kumpfer, Turner, Hopkins & Librett, 1993; Butterfoss, Goodman & Wandersman, 1996). As stated by Kegler, Stecker, McLeroy and Malek (1998): "The assumption is that if an action plan is of poor quality, its implementation is unlikely to produce the desired risk factor and health outcome results." Although both Kegler et al. (1998) and Butterfoss, et al. (1996) were not able to identify any coalition factors that were significantly related to quality of action plans, they found that ratings of plan quality itself was correlated with both resource mobilization and program implementation in 10 health promotion coalitions in North Carolina. Several studies have developed tools specifically to assess quality of action plans (Butterfoss et al., 1996; Florin, Mitchell & Stevenson, 1993; Kegler, Stecker, McLeroy & Malek, 1998; Steckler, Dawson & Herndon, 1980). Prevention plans can be rated by experts along several dimensions such as clarity, specificity, feasibility, and comprehensiveness or other

dimensions. However, although rating the quality of comprehensive prevention plans was agreed to in principle by SIG participants, no specific method or measure has been discussed.

SIG participants also mentioned expecting to measure the presence of increased numbers of science-based programs and changes in policies (e.g. availability, regulations, norms) both directly, through archival data and the sub-recipient project director's survey. Science-based prevention is defined as interventions of types 3, 4 and 5 as defined in CSAP's document entitled "Science-based Practices in Substance Abuse Prevention: A Guide". In addition, at least one state will conduct monthly Internet surveys of sub-recipient program staff, but this will not be a standard practice across states.

Table 7a. Sub-Recipient Immediate Local Outcomes

Constructs	Indicators	Data Sources	Instruments/Measures
Increased organizational capacity of sub-recipient	• increases in resources • perceptions of increases in organizational or coalition effectiveness • perceived increases in level of collaboration among local agencies	• project director of sub-recipient collaborative / advisory group	• *sub-recipient project director survey*
Comprehensive prevention plan for local level	• prevention map to identify resource allocation, gaps, new approaches, etc.	• document review	• expert rating scale for plan
Increased practice of science-based prevention	• increased numbers of science-based programs, policies, practices on local level	• document review; program staff • project director of sub-recipient collaborative / advisory group	• *annual reports; prevention plan* • *sub-recipient project director survey*
Other _____			

Table 7b presents an array of potential program level immediate outcomes. The intent is for program level interventions to specify the particular risk and protective factors being targeted and then to have an array of standardized instruments available to measure these particular factors. For example, a program directed toward families might specifically expect changes such as increases in communication, cohesion and problem solving and decreases in conflict and stress.

Hawkins, Catalano and Associates (1986, 1992) have led the development of risk-focused prevention over the past decade. They have articulated an array of risk and protective factors that research has shown to be empirically linked to ATOD use. Other predictive models exist as well. Resiliency-based programs focus on those natural, self-righting characteristics that lead individuals to succeed in spite of overwhelming odds (Benard, 1992; Werner & Smith, 1992). Community asset mapping, heavily promoted by the Search Institute, is another positively focused approach that attempts to assess and capitalize on a community's strengths in reducing ATOD use and other health risk behaviors among its youth and adults.

All of these approaches operate from the public health premise that, in order to prevent or reduce a long-term problem, be it alcohol and other drug use or heart disease, it is critical to determine the factors that increase/decrease the chance of that problem occurring and then find ways to reduce/improve those factors. The particular list of potential program level outcomes displayed in Table 7b was generated by SIG participants and CSAP staff at the Assessment Subcommittee meeting held July 9 and 10, 1998 in Burlington, Vermont. Participants did not specify particular measures for the indicators at that time, as measures for indicators within each of the domain are being selected by an expert panel consensus process currently being sponsored by CSAP.

Table 7b. Program Immediate Local Outcomes

Constructs	Indicators	Data Sources	Instruments/Measures
Individual risk / protective factors	• perception of alcohol and drug use • life skills • attitudes / knowledge about substance abuse • perceived risk / harm • intentions to use • problem solving • decision making	• ?	• ?
Parents risk / protective factors	• skills • involvement • attitudes about substance abuse • parental behavior	• ?	• ?

	• style		
Family risk / protective factors	• conflict • cohesion • management • resources • problem solving / decision making • communication • stress / coping styles	• ?	• ?
Peer risk / protective factors	• tolerance of deviance • resistance skills • engagement in pro-social activities with friends / peers • numbers of friends who use / engage in delinquent behaviors • leadership / mentoring	• ?	• ?
School risk / protective factors	• aspirations • school climate • achievement • attitudes • misconduct (absences / skipping) • engagement • completion / retention	• ?	• ?
Community risk / protective factors	• sense of community • norms / attitudes • needs / issues • linkages • empowerment • social support • youth participation • availability of alcohol and drugs • enforcement	• ?	• ?

8. State-level Systems Change

The SIG initiative expects to produce long term systems change through the development of a comprehensive state prevention plan that coordinates, redirects or integrates funding streams and articulates a vision for future program and resource allocation requirements at the local level. One of the major purposes of the SIG cooperative agreement is to promote the development of a coordinated funding system within a state. Governors are explicitly charged to "coordinate, leverage and/or redirect, as appropriate and legally permissible, all substance abuse prevention resources (funding streams and programs) within the state" Clearly, documenting increases over baseline in merged funding streams or the coordination of funding streams is a major indicator of state level systems change. SIG participants reached consensus that archival data sources such as the annual organizational reports mentioned in Table 2 would be one measure of this indicator. In addition, key informants will be asked about coordination of funding in the state agency collaboration interview described in Table 2. Finally, SIG participants agreed to record and report any legislative mandates concerning the merger or coordination of substance abuse prevention funding streams within their state.

Table 8. State-Level Systems Change

Constructs	Indicators	Data Sources	Instruments/Measures
Comprehensive state prevention plan	• prevention map to identify resource allocation, gaps, new approaches, etc.	• document review	• expert rating scale for plan
Coordinated funding system	• merged funding streams or coordination of categorical funding streams	• archival data sources. • key informants	• *annual organizational reports* • *state agency collaboration interview* • *legislative mandates*
Other _____			

9. Intermediate Outcomes

From the immediate outcomes of activities at sub-recipient and program levels, it is the intent of the SIG projects to impact the configuration of risk and protective factors within a sub-recipient community. However, the particular risk and protective factors anticipated to change in the population will, of course, depend upon the particular mix of prevention strategies employed in a sub-recipient community and whether they are indicated, selective or universal interventions (see Mrazek & Haggerty, 1994). For example, if a sub-recipient community concentrates efforts on an indicated prevention program for a particular sub-population such as adolescents in danger of

dropping out of school who have been identified by student assistance counselors, it is unrealistic to expect this program to produce changes in the configuration of risk and protective factors for the entire adolescent population. On the other hand, a sub-recipient with universal programs targeted to all junior high schools, a major campaign to educate parents about young adolescent access to alcohol in the home and systematic efforts to change community norms and regulations concerning alcohol availability at public events might impact a considerable portion of the junior high school population. It is, of course, the logic model of a particular sub-recipient's prevention strategies and the scope of these prevention strategies that will determine expectations for risk and protective factor coverage.

Amidst the scores of potential risk and protective factors shown by the literature to be significantly related to the long-term outcomes of interest to this program, several were cited by all current SIG grantees as relevant to their SIG projects. In addition, CSAP's set of Core Indicators for all of its programs contained risk and protective factors in five domains of influence represented in the literature: Community, Family, School, Peer and Individual. These two sets of risk and protective factors were discussed by SIG states and agreements reached that either (a) the states would agree to include them in their assessment plans at state and sub-recipient levels, or (b) if this was not feasible due to current constraints on their assessment plans, they would explicitly seek approval from CSAP for an exception. Finally, the sentiment remained that, until sub-recipient plans are reviewed and awards are made within each state, it is premature for states to commit to effecting change on all of the factors listed. These issues notwithstanding, the intermediate statewide outcomes agreed upon by all SIG grantees were:

Community Domain:
- Community Laws and Norms Regarding ATOD Use
- Number of Adults Known to Use ATOD
- Tobacco Sales to Youth

Family Domain:
- Family Conflict
- Parent Bonding
- Perceived Parent Attitudes toward ATOD Use

School Domain
- School Bonding

Peer Domain
- Number of Friends Who Use ATOD

Individual Domain
- Attitude Toward ATOD Use
- Perceived Risk or Harm of ATOD Use
- Perceived Availability of ATOD
- Antisocial Behavior

Table 9 presents these risk factors, their data sources and specific instruments or measures for the five SIG grantees. In general, there is a great deal of commonality in the approaches to operationally defining and measuring these key factors. Specifically, Kansas and Oregon participate in a CSAP-funded, six-state consortium designed to develop and use common, standardized needs assessment measures. Illinois has joined this consortium with support from a different federal agency. These three states use both a common youth survey developed through the consortium project and archival indicators to assess the level of risk in their communities. Vermont has added items from this youth survey to its own statewide youth survey to assess most of the factors shown in the table. Kentucky will derive its information on three of the five common risk factors using a household survey approach.

Table 9. Intermediate Outcomes: Risk and Protective Factors

Constructs	Indicators	Data Sources	Instruments/Measures
Community Laws and Norms	Youth perceptions of the extent to which adults in the community condone ATOD use	Youth Survey Archival Indicators	Seven-State Consortium Survey Scale Household Survey
Number of Adults Known to Use ATOD	Youth reports of adults they know who use ATOD	Youth Survey Archival Indicators	
Tobacco Sales to Youth	Percent of retail outlets selling tobacco product to youth	Results of State Studies of Violations of the Synar Amendment	Counts and Percentages of Retail Outlets
Family Conflict			
Parent Bonding	The extent to which youth feel connected to their parents		
Perceived Parental Attitudes toward Youth ATOD Use	Youth perceptions of the extent to which their parents feel it is wrong for youth to use ATOD	Youth Survey Archival Indicators	Seven-State Consortium Survey Scale Household Survey
School Bonding	The extent to which youth feel connected and committed to school	Youth Survey Archival Indicators	Seven-State Consortium Survey Scale Household Survey
Friends Who Use ATOD	The number of close friends of youth who use ATOD regularly	Youth Survey Archival Indicators	Seven-State Consortium Scale Household Survey
Youth Attitudes Toward ATOD Use Perceived Risk or Harm	Youth perceptions of the extent to which it is wrong to engage in ATOD use	Youth Survey Archival Indicators	Seven-State Consortium Survey Scale Household Survey

Constructs	Indicators	Data Sources	Instruments/Measures
Perceived Availability of ATOD	Youth perceptions of the extent to which ATOD use is harmful to their health	Youth Survey Archival Indicators	Seven-State Consortium Survey Scale Household Survey
	Youth Perceptions of the ease or difficulty of obtaining ATOD for their own use	Youth Survey Archival Indicators	Seven-State Consortium Survey Scale Household Survey
Antisocial Behavior	Youth self-report of the extent to which they engage in a variety of other antisocial behaviors	Youth Survey Archival Indicators	Seven-State Consortium Survey Scale Household Survey

The discussion surrounding intermediate outcomes acknowledged that, while this level of outcome was to include both risk and protective factors, the common list shown above is heavily weighted toward risk factors. Only parent and school bonding are drawn from the literature on protective factors and resiliency. This was seen as somewhat of a reflection of the more limited availability of standardized measurements of protective factors. It was noted that specific state or sub-recipient plans may invest more heavily in resiliency-based programs and the specification of consequent intermediate outcomes.

As represented in Table 9, a few of the risk factors taken from CSAP's list of Core Indicators were not yet included in the assessment plans of the SIG grantees. This issue was one of several that was tabled for consideration and resolution by a voluntary Assessment Committee, composed of SIG grantee representatives and chaired by Dr. Jeanette Johnson, special assistant to Dr. Kumpfer at CSAP. This committee will also investigate the possibility of reducing the number of items needed to measure the twelve risk and protective factors (from approximately 60 using current instruments). This deliberation will be based upon psychometric analysis of scales planned for use (i.e., the seven-state consortium risk and protective factor scales).

Finally, through the discussion, an additional four risk factors were viewed as relevant and important by SIG grantees and CSAP staff. The Assessment Committee will also determine how best to measure them. The additional four risk factors were:

- School Attendance
- Involvement in the Juvenile Justice System
- Parents' use of ATOD
- Community Attitudes Toward ATOD Use

10. Long-Term Outcomes

The "bottom line" impact of interest for the SIG projects is the reduction of alcohol, tobacco and other drug (ATOD) use in the target populations of the local sub-recipient communities. Many of the individual SIG grantees have other long-term, health-related outcomes of interest: reductions in juvenile delinquency, teen pregnancy, violent behavior, etc. Across the five grantees, however, there were several ATOD-related outcomes in common. These included reductions in:

- Alcohol use
- Tobacco (smoking) use
- Marijuana use
- Other illicit drug use

In general, measures of actual use of each of the substances listed above included four primary indicators: lifetime use, annual use, 30-day use, and age of first use. Alcohol use included another highly relevant indicator: binge drinking.

In Table 10, the data sources and measurement approaches to these long-term outcomes across the five states is summarized. All five states are using a youth survey as their source of information on these ATOD use indicators. Again, the participation in the previously cited, seven-state consortium has effected much commonality among Illinois, Kansas and Oregon. They are using a youth survey patterned after the NIDA-funded Monitoring the Future survey. Vermont is using the CDC-funded Youth Risk Behavior Survey. Kentucky is relying on the household survey.

Table 10. Long-Term Outcomes: ATOD Use

Constructs	Indicators	Data Sources	Instruments/Measures
Alcohol Use	Lifetime, Annual, Monthly Use; Age of First Use	Youth Survey	Seven-State Consortium Survey Item Youth Risk Behavior Survey Item Household Survey
	Binge Drinking	Youth Survey	Seven State Consortium Survey Item Youth Risk Behavior Survey
Tobacco Use (Cigarettes)	Lifetime, Annual, Monthly Use; Age of First Use	Youth Survey	Seven State Consortium Survey Item Youth Risk Behavior Survey Household Survey

Constructs	Indicators	Data Sources	Instruments/Measures
Marijuana Use	Lifetime, Annual, Monthly Use; Age of First Use	Youth Survey	Seven State Consortium Survey Youth Risk Behavior Survey Household Survey
Other Illicit Drug Use	Lifetime, Annual, Monthly Use; Age of First Use	Youth Survey	Seven-State Consortium Survey Youth Risk Behavior Survey Household Survey

Lifetime, Monthly and Age of First Use indicators are currently included in the assessment plans of all SIG grantees. The measurement of Annual Use is not universal and, again, this may be dealt with by the procedure for exceptions described in the previous sections. Finally, specific substances in the "Other Illicit Drugs" category were not specified, although states agreed to collect the age of first use for three illicit drugs to be determined by each state based on their priorities. This is another issue to be resolved by the Assessment Committee.

In general there is much, but likely not perfect, agreement between the Seven-State Consortium Survey and the Youth Risk Behavior Survey. Cross-site aggregation of data from these two survey efforts will require careful comparison of item-level content. Combining Household Survey data with that of the other states is almost certainly problematic, however, due to the well-documented differences in ATOD use results obtained from written vs. telephone survey approaches.

11. Contextual Conditions

This particular component of the framework has received little discussion from CSAP staff and SIG grantees. The influence of contextual conditions is seen at virtually all phases of the framework, from planning through process and outcomes. Preliminary discussion of the most relevant contextual indicators for sub-recipient communities and the states yielded the following:

- Socioeconomic status
- Cultural composition
- Prior status on risk factors
- Prior history of ATOD use

Remaining Measurement and Design Tasks / Issues

Much has been accomplished in the evolution of the SIG evaluation framework due to the concerted, persistent efforts of the initial five SIG grantees, CSAP staff and other stakeholders such as CAPT staff. The general configuration of the framework has been developed through several iterations of input and ratified by these stakeholders. Crucial decisions related to the framework such as criteria for sub-recipient awards, expectations for program level evaluation and definitions of science-based prevention evolved from nascent concepts to articulated constructs. Respect among colleagues, empathy for others' positions and willingness to compromise has resulted in considerable consensus on common cross-site measures. For all of this, SIG grantees and CSAP staff are to be congratulated. Nevertheless, this report retains a responsibility to identify those measurement tasks and issues that remain. Some tasks remain from previous consensus decisions. Others issues are those that SIG participants have not rejected but simply not had the opportunity to discuss. Still others are the authors' observations about potential difficulties that may or may not have a solution. The following are offered in the spirit of continued evolution of the SIG evaluation:

- The "funding streams inventory" will be a more reliable measure across states if particular boundary conditions are established, rather than left to interpretation. For example, should tobacco control funding streams be included? The same can be said for the description of the "portfolios" (e.g. budget, programs and personnel) of major state agencies.

- The sub-recipient project director survey needs to be developed, reviewed and approved.

- Considering the crucial role envisioned for training and technical assistance from the SIGs and CAPTs to sub-recipients, developing standardized measures documenting and evaluating this assistance across SIGs and CAPTs should be a top priority (before significant training and ta has already occurred). SIG grantees agreed to forward existing state level "training and ta contact forms" to CSAP who will examine for similarities and promote alignment with the training and ta contact form that will be used in common across the five CAPTs.

- SIG grantees mentioned using minutes to track collaborative planning at the sub-recipient level, but no discussion took place about the development of a common measure. The "advisory council meeting minutes form" should be examined for potential adaptation for use at the sub-recipient level.

- Although SIG participants reached consensus on selection criteria for sub-recipient proposals, the weighting of criteria for sub-recipient awards was left to each state. This should be kept in mind and adjustments made should cross-site comparisons be made using this data.

- All SIG grantees mentioned the use of "progress reports" to track implementation activities at the sub-recipient level. However, the format of these reports will vary widely if a standardized reporting form is not developed by CSAP staff. It is recommended that CSAP project officers, who monitor progress on a regular basis, work with SIG grantees to develop a standard progress report to be used by sub-recipients. Such standardization will increase the viability of cross-site comparisons.

- A similar point can be made concerning state plans. While expert ratings can be applied to whatever state plan is produced, cross-site comparisons would be more reliable if a similar format were developed by SIG grantees and CSAP staff. In addition, there needs to be consensual development of a common set of criteria for expert ratings.

- The Assessment Committee, an ongoing work group of SIG grantees and CSAP staff and consultants, has a formidable charge. It has already contributed the list of program level indicators generated at its July 9th and 10th, 1998 meeting in Burlington, Vermont. It must continue the good work to date in specification of measurement for the four additional risk and protective factors proposed as Intermediate Outcomes; and decide what "other illicit drugs" will be included in the long-term outcome measures.

In addition to these specific measurement issues, the cross-site evaluation will also confront a number of key design and reporting issues in addressing national-level questions. These cross-site evaluation issues will necessarily be within the charge of the CSAP contractor chosen to conduct the national evaluation, but the current authors have worked with the initial five SIG grantees and CSAP enough that some obvious issues come to light.

- Understanding the interplay of program-level, sub-recipient level and state level evaluations is crucial to the national evaluation strategy. Cross-site aggregations of program-level results, likely necessary to achieve sufficient statistical power to address effectiveness questions at the specific program level, must seriously consider cross-site contextual and implementation differences. That is, individual states and sub-recipient communities may have very different local conditions that stimulated the design/adaptation and implementation of a given program, and these factors can dramatically influence program implementation and outcome.

- The inclusion of comparison groups, always a challenge in community-based demonstration projects, will face this cross-site evaluation as well. Some, but not all, of the current SIG grantees have specified comparison communities in their own state evaluation plans. Another viable strategy may be to use statewide samples as a comparison, using covariance adjustments for any initial differences. These designs, crafted by highly respected evaluation professionals, can contribute greatly to the cross-site evaluation plan.

- Finally, the importance of evaluation in this far-reaching CSAP initiative has been abundantly emphasized at all levels. SIG grantees have responded to this with their own detailed plans and willingness to compromise on behalf of the national agenda. Within their states, they are passing along the mandate and technical assistance to effect the most useful and scientifically rigorous evaluations possible at the local level. To obtain maximum cooperation, some are planning to provide feedback reports (e.g., comparing local results to state or national results on the same indicators). Whatever national, cross-site evaluation is conducted, it must follow suit with reporting their own results back to participating sub-recipients and states. These comparative data will be added value to local sub-recipient communities as they gauge their own success and strive to modify programs and strategies to reduce substance abuse and related behaviors in their communities. This entire process could be strengthened if representatives of the current SIG evaluators are given an opportunity to be involved in the cross-site effort.

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